

Fact Sheet



Mandatory Reporting of Greenhouse Gases (40 CFR part 98)

Rule Overview

- On October 30, 2009, the U.S. Environmental Protection Agency (EPA) published a rule for the mandatory reporting of greenhouse gases (GHG) (also referred to as 40 CFR part 98) from large GHG emissions sources in the United States. Implementation of 40 CFR Part 98 is referred to as the Greenhouse Gas Reporting Program (GHGRP).
- This comprehensive, nationwide emissions data will provide a better understanding of where GHGs are coming from and will guide development of the policies and programs to reduce emissions. The publically available data will allow reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost effective opportunities to reduce emissions in the future.
- 40 CFR part 98 applies to direct greenhouse gas emitters, fossil fuel suppliers, and industrial gas suppliers. In general, the threshold for reporting is 25,000 metric tons or more of carbon dioxide (CO₂) equivalent per year. Reporting is at the facility level, except for certain suppliers of fossil fuels and industrial greenhouse gases.
- An estimated 85-90 percent of the total U.S. GHG emissions from approximately 10,000 facilities are covered by this final rule.
- Most small businesses would fall below the 25,000 metric ton threshold and are not required to report GHG emissions to EPA.
- Reports are submitted annually. EPA will verify the data submitted and will not require third party verification. Prior to EPA verification, reporters will be required to self-certify the data they submit to EPA.
- The GHG reporting requirements for vehicle and engine manufacturers outside of the light-duty sector were incorporated into the long-standing conventional ("criteria") pollutant testing and reporting requirements under Title II of the Clean Air Act. Wherever possible, EPA based the new reporting requirements on existing measurement methods and plan to use existing data collection systems. EPA is not requiring reporting of mobile source emissions or activity data from fleet operators or state and local governments.

Subsequent Final Rule Revisions

Federal Register Publication Date	Rule Revision	Description	First Reports Due
07/12/2010	Mandatory Reporting of Greenhouse Gases from Magnesium Production, Underground Coal Mines, Industrial Wastewater Treatment, and Industrial Waste Landfills (Subparts T, FF, II, and TT)	Requires reporting of GHGs from magnesium production, underground coal mines, industrial wastewater treatment, and industrial landfills. The action includes EPA's final decision not to include ethanol production and food processing as distinct subparts in the rule, as well as the final decision not to include suppliers of coal in the rule at this time.	Beginning 03/31/2012 for data collected in the previous year

Currently Proposed Rule Revisions

Federal Register Publication Date	Proposed Action	Description	First Reports Due
04/12/2010	Corporate Parent and NAICS code (Subpart A)	Proposed revision to require reporters to provide: the name, address, and ownership status of their U.S. parent company; their primary and all other applicable North American Industry Classification System (NAICS) code(s); and an indication of whether or not any of their reported emissions are from a cogeneration unit.	Beginning 03/31/2011 for data collected in the previous year
04/12/2010	Additional Sources of Fluorinated GHGs (Subparts I, L, DD, QQ, and SS)	Revised proposal for reporting of fluorinated GHG emissions from electronics manufacturing, production of fluorinated gases, and use of electrical transmission and distribution equipment. New proposal to require such reporting from the manufacture or refurbishment of electrical equipment, and import and export of pre-charged equipment and closed cell foams.	Beginning 03/31/2012 for data collected in the previous year
04/12/2010	Injection and Geological Sequestration of Carbon Dioxide (Subpart RR)	Proposal to require reporting on carbon dioxide (CO ₂) injection and geologic sequestration (GS). This rule will enhance the reporting system to account for emissions from CO ₂ injection and the amount of CO ₂ permanently sequestered from the CO ₂ supply industry (covered under Subpart PP, Suppliers of CO ₂).	Beginning 03/31/2012 for data collected in the previous year
04/12/2010	Petroleum and Natural Gas Systems (Subpart W)	Revised proposal for reporting of fugitive and vented GHG emissions from petroleum and natural gas systems. The proposed rulemaking would require emissions reporting from the following industry segments: Onshore petroleum and natural gas production, offshore petroleum and natural gas production, natural gas processing, natural gas transmission compressor stations, underground natural gas storage, liquefied natural gas (LNG) storage, LNG import and export terminals, and natural gas distribution.	Beginning 03/31/2012 for data collected in the previous year
05/13/2010	Electronics Manufacturing, Notice of Data Availability (NODA) (Subpart I)	Supplements the 4/12/2010 proposal for Subpart I. EPA proposed default emission factors for semiconductor manufacturing refined process categories. EPA made those draft emission factors as well as the underlying data that was used to develop the draft emission factors available to the public for review and comment.	Beginning 03/31/2012 for data collected in the previous year
06/15/2010	Technical Corrections, Clarifying and Other Amendments to Certain Provisions of the Greenhouse Gas Reporting Rule (Multiple subparts)	Proposed amendments to correct certain technical and editorial errors in 18 subparts and to clarify or propose updates to certain provisions that have been the subject of questions from reporting entities. The proposed updates would not change the overall requirements of the rule but would improve clarity and ensure consistency across the calculation, monitoring and data reporting requirements.	Beginning 03/31/2011 for data collected in the previous year

07/07/2010	Confidentiality Determination for the Mandatory Greenhouse Gas Reporting Rule and Proposed Rule Amendment Specifying Procedures for Handling Part 98 Data (all subparts)	Proposed determination of which data elements reported under EPA's Greenhouse Gas Reporting Program would be publicly available and which would be kept confidential.	All reporting years
7/27/2010	CBI Supplemental (All subparts)	Proposed confidentiality determinations for data reporting requirements included in the August 11, 2010 "Proposed Rulemaking: Revision of Certain Provisions of the Mandatory Reporting of Greenhouse Gases Rule." This action addressed only the confidentiality of the new and revised data elements included in the August 11, 2010 Proposal	All reporting years
8/11/2010	Revision of Certain Provisions of the Mandatory Reporting of Greenhouse Gases Rule. (Multiple subparts)	Proposed revisions to certain provisions of the Mandatory Reporting of Greenhouse Gases (GHG) Rule, which was published on October 30, 2009. These proposed amendments primarily make clarifying and technical changes to specific sections of the final rule that were either not clear, or did not have the intended effect. This proposal is complementary to the proposed rulemaking: Technical Corrections, Clarifying and Other Amendments, published on June 15, 2010. Together, these two proposed rulemakings address the most significant questions raised during implementation	Beginning 03/31/2011 for data collected in the previous year

Implementation of the GHG Reporting Program

To assist reporters in complying with this regulation, EPA has developed a suite of information and training resources including:

- An on-line applicability tool that will assist potential reporters to assess if they meet the threshold for reporting.
- A series of webinars and other training opportunities on the reporting requirements of the rule, including the electronic GHG reporting tool (eGGRT), that have reached over 9,000 people.
- A hotline to answer technical questions on rule implementation.
- A variety of guidance documents for different audiences.
- Information sheets and monitoring checklist on reporting requirements for subparts.
- A comprehensive website.

More Information

<http://www.epa.gov/climatechange/emissions/ghgrulemaking.html>.

This information is provided solely for informational purposes. It does not provide legal advice, have legally binding effect, or expressly or implicitly create, expand, or limit any legal rights, obligations, responsibilities, expectations, or benefits in regard to any person. The series of information sheets is intended to assist reporting facilities/owners in understanding key provisions of 40 CFR part 98.

EPA Finalizes the Nation's First Greenhouse Gas Reporting System/Monitoring to begin in 2010

Release date: 09/22/2009

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WASHINGTON – On January 1, 2010, the U.S. Environmental Protection Agency will, for the first time, require large emitters of heat-trapping emissions to begin collecting greenhouse gas (GHG) data under a new reporting system. This new program will cover approximately 85 percent of the nation's GHG emissions and apply to roughly 10,000 facilities.

"This is a major step forward in our effort to address the greenhouse gases polluting our skies," said EPA Administrator Lisa P. Jackson. "For the first time, we begin collecting data from the largest facilities in this country, ones that account for approximately 85 percent of the total U.S. emissions. The American public, and industry itself, will finally gain critically important knowledge and with this information we can determine how best to reduce those emissions."

EPA's new reporting system will provide a better understanding of where GHGs are coming from and will guide development of the best possible policies and programs to reduce emissions. The data will also allow businesses to track their own emissions, compare them to similar facilities, and provide assistance in identifying cost effective ways to reduce emissions in the future. This comprehensive, nationwide emissions data will help in the fight against climate change.

Greenhouse gases, like carbon dioxide, are produced by burning fossil fuels and through industrial and biological processes. Fossil fuel and industrial GHG suppliers, motor vehicle and engine manufacturers, and facilities that emit 25,000 metric tons or more of CO₂ equivalent per year will be required to report GHG emissions data to EPA annually. This threshold is equivalent to about the annual GHG emissions from 4,600 passenger vehicles.

The first annual reports for the largest emitting facilities, covering calendar year 2010, will be submitted to EPA in 2011. Vehicle and engine manufacturers outside of the light-duty sector will begin phasing in GHG reporting with model year 2011. Some source categories included in the proposed rule are still under review.

More information on the new reporting system and reporting requirements:
<http://www.epa.gov/climatechange/emissions/ghgrulemaking.html>

EPA and NHTSA to Propose Greenhouse Gas and Fuel Efficiency Standards for Heavy-Duty Trucks; Begin Process for Further Light-Duty Standards

The U.S. Environmental Protection Agency (EPA) and the National Highway Traffic Safety Administration (NHTSA), on behalf of the U.S. Department of Transportation (DOT), are taking the next steps to reduce greenhouse gas (GHG) emissions and fuel use from cars and trucks. This fact sheet contains an overview of President Obama's memorandum on "Improving Energy Security, American Competitiveness and Job Creation, and Environmental Protection through a Transformation of our Nation's Fleet of Cars and Trucks," announced on May 21, 2010.

Overview

EPA and NHTSA will initiate two joint rulemakings, one to improve fuel efficiency and reduce GHG emissions for commercial trucks, and another to adopt the second-phase of GHG and fuel economy standards for light-duty vehicles. Through these efforts, the United States has the opportunity to lead the world in the development of a new generation of clean cars and trucks through innovative technologies and manufacturing that will spur economic growth and create high-quality domestic jobs, enhance our energy security, and improve our environment.

EPA and NHTSA's April 1, 2010 final rule set the first-ever harmonized GHG and fuel economy standards for light-duty vehicles for model years 2012 through 2016 – a historic first step in addressing the transportation segment's largest contributor to oil consumption and GHG emissions. Light-duty vehicles are responsible for about 60 percent of U.S. transportation GHG emissions.

Building on this success, EPA and NHTSA will for the first time address heavy-duty trucks, which are the transportation segment's second largest contributor to oil consumption and GHG emissions. The heavy-duty sector, from the largest pickups to 18-wheelers, emits about 20 percent of U.S. transportation GHG emissions.

The president also requested that EPA and NHTSA develop a coordinated national program that will set further standards to improve fuel efficiency and reduce greenhouse gas emissions for passenger cars and light-duty trucks for model years 2017 and later. Both programs have the goal of taking coordinated and aggressive steps to deliver a new generation of clean vehicles, and to do this through a coordinated federal program that is also harmonized with applicable state requirements. In that way, car and truck manufacturers will be able to build a single, national fleet of new, clean vehicles.

EPA and NHTSA will be seeking input on these rulemakings from an array of stakeholders, including automobile and truck manufacturers, labor unions, environmental organizations, and others. The agencies will also work closely with the State of California and other key states, recognizing their continued leadership role.

Need to Reduce Greenhouse Gases and Reduce Fuel Use from Vehicles

Our country has two intertwined and critically important needs - to address global climate change and to reduce oil consumption. EPA and NHTSA are developing a national program to meet these needs by reducing GHG emissions and fuel use from on-highway transportation sources. The effect of these actions will be to reduce GHG emissions, improve energy security, increase fuel savings, and provide regulatory certainty for manufacturers.

Transportation sources emitted 28 percent of all U.S. GHG emissions in 2007 and have been the fastest-growing source of U.S. GHG emissions since 1990¹. The mobile sources addressed in this regulatory announcement – light-duty vehicles and heavy-duty vehicles – accounted for 23 percent of all U.S. GHG emissions in 2007².

Standards for Heavy-Duty Engines and Vehicles

Building on EPA's and NHTSA's successful collaboration and the overwhelming stakeholder support for establishing harmonized fuel economy and GHG emission standards for light-duty vehicles built in model years 2012-2016, EPA and NHTSA will work to develop strong, coordinated national GHG and fuel efficiency standards for heavy-duty vehicles that will begin with model year 2014.

¹ U.S. Environmental Protection Agency. 2009. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2007. EPA 430-R-09-004. Available at

http://epa.gov/climatechange/emissions/downloads09/GHG2007entire_report-508.pdf

² U.S. EPA. 2009 Technical Support Document for Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act. Washington, DC. pp. 180-194. Available at <http://epa.gov/climatechange/endangerment/downloads/Endangerment%20TSD.pdf>

The agencies will propose and take comment on strategies, including those designed to increase the use of existing technologies, to achieve substantial annual progress in reducing transportation sector GHG emissions and fossil fuel consumption from the truck sector, consistent with the Administration's energy and climate security goals. The agencies will seek comment on standards flexible enough to account for the unique market structure of the trucking industry and the diverse demands of heavy-duty vehicle applications. They will also seek to harmonize with applicable state standards.

To inform their work, EPA and NHTSA will seek input from an array of stakeholders, including, but not limited to, vehicle and engine manufacturers, fleet owners and operators, and environmental organizations. The agencies will also work with the State of California and other states in this process, and will consider the findings and recommendations of the National Academies of Science. EPA's preliminary analysis indicates that the heavy-duty standards under consideration have the potential to reduce GHG emissions by approximately 250 million metric tons and save over 500 million barrels of oil over the life of vehicles produced in the first five years of the program.

Further Standards for Light-Duty Vehicles

EPA's and NHTSA's successful collaboration and the strong stakeholder support for establishing harmonized light-duty fuel economy and GHG emission standards for vehicles built in model years 2012-2016, forms the foundation for a new joint rulemaking to develop a coordinated national program to improve fuel efficiency and reduce GHG emissions for light-duty vehicles manufactured in model years 2017 and beyond. The national program will seek to develop joint federal standards that are harmonized with applicable state standards, with the goal of ensuring that automakers will be able to build a single light-duty fleet that satisfies all requirements. This program will aim to achieve substantial annual progress in reducing transportation sector emissions and fossil fuel consumption, consistent with the Administration's energy and climate security goals, through the increased domestic production and use of existing, advanced, and emerging technologies.

The president's May 21, 2010 memorandum requests that EPA and NHTSA do two key things:

1. EPA and NHTSA, working with the State of California, will develop by September 1, 2010, a technical assessment that will inform the rulemaking process. The assessment will reflect input from an array of stakeholders on relevant factors, including viable technologies and costs, benefits, lead time to develop and deploy new and emerging technologies, incentives and other flexibilities to encourage the development of new and emerging technologies, impacts on jobs and the automotive manufacturing base in the U.S., and infrastructure for advanced vehicle technologies.
2. By September 30, 2010, EPA and NHTSA will issue a Notice of Intent to Issue a Proposed Rule, announcing plans for setting stringent light-duty vehicle standards for model year 2017 and beyond. The Notice will describe key elements of the program that EPA and NHTSA intend to propose in a future joint rulemaking, and identify potential standards that could be practically implemented nationally for the 2017-2025 model

years. It will also announce a rulemaking schedule for setting standards as expeditiously as possible to provide sufficient lead time to vehicle manufacturers.

Vehicle Descriptions

For purposes of these future regulatory actions, the light-duty fleet covered by the second-phase joint EPA/NHTSA rulemaking includes passenger cars, light-duty trucks, and medium-duty passenger vehicles. The light-duty vehicle class collectively includes smaller vehicles ranging from subcompact cars and sedans to minivans, sport utility vehicles (SUVs), smaller (1/2 ton) pickup trucks, and similar vehicles with a gross vehicle weight rating (GVWR) of less than 8,500 pounds. Medium-duty passenger vehicles are those between 8,500 and 10,000 lbs GVWR if they are designed and used primarily for transporting persons³. An example of a vehicle in this class would be the Hummer H2.

The lightest class of heavy-duty trucks is “class 2b,” which includes heavy pickup trucks and vans used primarily for commercial purposes, weighing between 8,500 and 10,000 lbs GVWR. This class would be embodied by a Dodge Ram 2500, for example. EPA would regulate these under the Clean Air Act as heavy-duty vehicles. Other classes covered by the national heavy-duty program would include vocational work trucks, such as new concrete mixers, refuse trucks, urban buses, and utility trucks, as well as combination tractor-trailers, commonly known as “18-wheelers.” For a complete listing of vehicle weight classifications, please visit EPA’s web page at <http://www.epa.gov/otaq/standards/weights.htm>.

EPA and NHTSA’s Rulemaking Process

EPA and NHTSA currently anticipate that the joint rulemaking for new heavy-duty engines and vehicles will be proposed this fall, finalized by July 2011, and would begin with model year 2014. When published, the proposal will include full details on the proposed heavy-duty program and supporting analyses, including the costs and benefits of the proposal and its effects on the economy, manufacturers, and consumers. Once the proposed joint rulemaking is published in the Federal Register, there will be an opportunity for public comment and public hearings.

To address further standards for light-duty vehicles, EPA and NHTSA will issue a Notice of Intent by September 30, 2010, announcing our plans for setting stringent light-duty vehicle standards for model year 2017 and beyond, consistent with the respective statutory authorities. The Notice will include a rulemaking schedule for setting standards as expeditiously as possible, while providing sufficient lead-time. The agencies also will gather any additional information needed to support regulatory action. The future proposed rulemaking will provide an opportunity for public notice and comment, including public hearings.

The EPA establishes GHG emissions standards under the Clean Air Act, whereas NHTSA establishes fuel economy standards under the Energy Independence and Security Act (EISA) and

³ Medium-duty passenger vehicles are generally complete vehicles between 8,500 and 10,000 pounds GVWR designed primarily for the transportation of persons. For the complete definition with exclusions, see the [Tier 2 final rulemaking](#), 65 FR 6698, February 10, 2000.

the Energy Policy and Conservation Act (EPCA). The goal of the joint rulemakings is coordinated federal standards that are also harmonized with applicable state standards.

Cleaner Vehicles and Fuels and Necessary Infrastructure

The president's memorandum asks EPA to review whether the current non-GHG emissions regulations for new motor vehicles/engines and fuels are adequate, including whether current tailpipe standards for nitrogen oxides, air toxics, and gasoline sulfur standards are adequate. If EPA finds that new emission regulations are required, the agency will promulgate new regulations as part of a comprehensive approach toward regulating motor vehicles.

The president also calls on the Department of Energy (DOE), coordinating with EPA and DOT/NHTSA and working with stakeholders, to develop voluntary standards to facilitate the robust deployment of advanced vehicle technologies, such as electric vehicles and plug-in hybrid electric vehicles.

These efforts recognize that the success of efforts to enhance energy security and protect the environment also depend upon the development of infrastructure and the promotion of fuels, including biofuels, which will enable the development and widespread deployment of advanced technologies.

For More Information

You can access the May 2010 White House press release and President Obama's Memorandum to EPA, DOT/NHTSA and DOE through the White House Briefing Room web page:

[President Obama Directs Administration to Create First-Ever National Efficiency and Emissions Standards for Medium- and Heavy-Duty Trucks](#)

[Presidential Memorandum Regarding Fuel Efficiency Standards](#)

You can learn more about the current regulations to reduce GHG emissions from mobile sources on EPA's web site at:

www.epa.gov/otaq/climate/regulations.htm

You can learn more about the current regulations for fuel economy on NHTSA's web site at:

www.nhtsa.gov/fuel-economy

For additional information, please contact EPA's Office of Transportation and Air Quality, Assessment and Standards Division, E-mail at asdinfo@epa.gov or (734) 214-4636.

EPA, DOT and California Align Timeframe for Proposing Standards for Next Generation of Clean Cars

Release date: 01/24/2011

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WASHINGTON - The U.S. Department of Transportation (DOT), the U.S. Environmental Protection Agency (EPA) and the state of California today announced a single timeframe for proposing fuel economy and greenhouse gas standards for model year 2017-2025 cars and light-duty trucks. Proposing the new standards on the same timeframe - by September 1, 2011 - signals continued collaboration that could lead to an extension of the current National Clean Car Program, providing automakers certainty as they work to build the next generation of clean, fuel efficient cars. Improving fuel efficiency will save consumers money at the pump, reduce America's dependence on foreign oil and cut emissions of harmful pollutants.

"The single timeframe is another great example of the cooperation that has led us to strong and achievable standards for clean cars in America," said EPA Administrator Lisa P. Jackson. "I'm proud to be working with my federal and state partners on this next step in the process to make the U.S. the world leader in fuel efficient clean cars."

"Today's announcement is a big step forward, but it is only the beginning. By working together with EPA and the California Air Resources Board (CARB) to develop standards for the next generation of clean cars, we can set a standard that works for automakers across the country," said DOT Secretary LaHood. "Our continued collaboration is win-win-win for the environment, businesses and the American consumer."

"President Obama's invitation last year to join with the federal agencies to develop new emission and fuel economy standards has resulted in a model of government cooperation to address the important issues of global climate change and urban pollution," said Mary Nichols, Chairman of the California Air Resources Board.

In April 2010, DOT and EPA established greenhouse gas emission and fuel economy standards for model year 2012-2016 light-duty cars and trucks. In the fall of 2010, California accepted compliance with these federal GHG standards as meeting similar state standards as adopted in 2004, resulting in the first coordinated national program. The standards require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile in model year 2016, which is equivalent to 35.5 miles per gallon.

In May 2010, President Obama announced that EPA, DOT and California would begin working together to assess the performance and costs of a variety of technologies that

could be available in model years 2017-2025 as the first step in possibly extending the current national emission and fuel economy standards. The three agencies completed an interim technology assessment and have since funded additional research critical to future rulemaking.

With today's announcement, CARB is committing to continue its collaboration with DOT's National Highway Traffic Safety Administration (NHTSA) and EPA in an effort to establish standards that will provide manufacturers with the regulatory certainty needed to invest today in the kind of new technologies that will provide consumers a full range of efficient clean vehicle choices.

Prior to today's announcement, CARB announced its intention to propose greenhouse gas emission standards for model years 2017 to 2025 in March of this year, while EPA and NHTSA were working on an end of September timeline for proposal. Today's announcement ensures that both proposals will come out simultaneously after a thorough, joint review of all data available when the proposals are issued.

Auto manufacturers are responding to these goals through the increased domestic production and use of existing, advanced, and emerging technologies to strengthen the auto industry and enhance job creation in the United States.

FACT SHEET
FINAL REVISIONS TO THE NATIONAL AMBIENT AIR QUALITY STANDARDS
FOR NITROGEN DIOXIDE

SUMMARY OF ACTION

- On January 22, 2010, EPA strengthened the health-based National Ambient Air Quality Standard (NAAQS) for nitrogen dioxide (NO₂). The new standard will protect public health, including the health of sensitive populations – people with asthma, children and the elderly.
- EPA is setting a new 1-hour NO₂ standard at the level of 100 parts per billion (ppb). This level defines the maximum allowable concentration anywhere in an area. It will protect against adverse health effects associated with short-term exposure to NO₂, including respiratory effects that can result in admission to a hospital.
- In addition to establishing an averaging time and level, EPA also is setting a new “form” for the standard. The form is the air quality statistic used to determine if an area meets the standard. The form for the 1-hour NO₂ standard, is the 3-year average of the 98th percentile of the annual distribution of daily maximum 1-hour average concentrations.
- EPA also is retaining, with no change, the current annual average NO₂ standard of 53 ppb.
- This suite of standards will protect public health by limiting people’s exposures to short-term peak concentrations of NO₂ – which primarily occur near major roads – and by limiting community-wide NO₂ concentrations to levels below those that have been linked to respiratory-related emergency department visits and hospital admissions in the United States.
- To determine compliance with the new standard, EPA is establishing new ambient air monitoring and reporting requirements for NO₂.
 - In urban areas, monitors are required near major roads as well as in other locations where maximum concentrations are expected.
 - Additional monitors are required in large urban areas to measure the highest concentrations of NO₂ that occur more broadly across communities.
 - Working with the states, EPA will site a subset of monitors in locations to help protect communities that are susceptible and vulnerable to NO₂-related health effects.
- The addition of a new 1-hour NO₂ standard and changes to the NO₂ monitoring network are consistent with the recommendations of the majority of the Clean Air Scientific Advisory Committee (CASAC). CASAC provides independent advice to the EPA Administrator on the relevant scientific and technical information and on the standards.
- These changes will not affect the secondary NO₂ standard, set to protect public welfare. EPA is considering the need for changes to the secondary standard under a separate review.

NO₂ AND PUBLIC HEALTH

- Current scientific evidence links short-term NO₂ exposures, ranging from 30 minutes to 24 hours, with an array of adverse respiratory effects including increased asthma symptoms, more difficulty controlling asthma, and an increase in respiratory illnesses and symptoms.
- Studies also show a connection between short-term exposure and increased visits to emergency departments and hospital admissions for respiratory illnesses, particularly in at-risk populations including children, the elderly, and asthmatics.
- NO₂ concentrations near major roads are appreciably higher than those measured at monitors in the current network. Concentrations in heavy traffic or on freeways can be twice as high as levels measured in residential areas or near smaller roads. Monitoring studies indicate that near-road (within about 50 meters) concentrations of NO₂ can be 30 to 100 percent higher than concentrations away from major roads.
- EPA's NAAQS for NO₂ is designed to protect against exposure to the entire group of nitrogen oxides (NO_x). NO₂ is the component of greatest concern and is used as the indicator for the larger group of NO_x. The sum of nitric oxide (NO) and NO₂ is commonly called NO_x. Other nitrogen oxides include nitrous acid and nitric acid.
- Emissions that lead to the formation of NO₂ generally also lead to the formation of other NO_x. Control measures that reduce NO₂ can generally be expected to reduce population exposures to all gaseous NO_x. This may have the co-benefit of reducing the formation of ozone and fine particles both of which pose significant public health threats.
 - NO_x react with ammonia, moisture, and other compounds to form small particles. These small particles penetrate deeply into sensitive parts of the lungs and can cause or worsen respiratory disease, such as emphysema and bronchitis, and can aggravate existing heart disease, leading to increased hospital admissions and premature death. EPA's NAAQS for particulate matter (PM) are designed to provide protection against these health effects.
 - NO_x react with volatile organic compounds to form ozone. Children, the elderly, people with lung diseases such as asthma, and people who work or exercise outside are at risk for adverse health effects from ozone. These effects include reduced lung function and increased respiratory symptoms, more respiratory-related emergency department visits and hospital admissions, and increased risk of premature death from heart or lung disease. EPA's NAAQS for ozone are designed to provide protection against these health effects.

REVISING THE NO₂ MONITORING NETWORK

- EPA is setting new requirements for the placement of new NO₂ monitors in urban areas. These include:
 - Near Road Monitoring**
 - At least one monitor must be located near a major road in any urban area with a population greater than or equal to 500,000 people. A second monitor is required

near another major road in areas with either:

- (1) population greater than or equal to 2.5 million people, or
- (2) one or more road segment with an annual average daily traffic (AADT) count greater than or equal to 250,000 vehicles.

These NO₂ monitors must be placed near those road segments ranked with the highest traffic levels by AADT, with consideration given to fleet mix, congestion patterns, terrain, geographic location, and meteorology in identifying locations where the peak concentrations of NO₂ are expected to occur. Monitors must be placed no more than 50 meters (about 164 feet) away from the edge of the nearest traffic lane.

- EPA estimates that the new NO₂ monitoring requirements will result in a network of approximately 126 NO₂ monitoring sites near major roads in 102 urban areas.

Community Wide Monitoring

- A minimum of one monitor must be placed in any urban area with a population greater than or equal to 1 million people to assess community-wide concentrations.
- An additional 53 monitoring sites will be required to assess community-wide levels in urban areas.
- Some NO₂ monitors already in operation may meet the community-wide monitor siting requirements.

Monitoring to Protect Susceptible and Vulnerable Populations

- Working with the states, EPA Regional Administrators will site at least 40 additional NO₂ monitors to help protect communities that are susceptible and vulnerable to NO₂-related health effects.
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- All new NO₂ monitors must begin operating no later than January 1, 2013.
 - EPA Regional Administrators have the authority to require additional monitoring in certain circumstances, such as in areas impacted by major industrial point sources or a combination of sources where there is an indication that the standards may be exceeded. The Regional Administrators also have the authority to require additional near-road monitoring in urban areas where multiple peak concentration areas may be caused by a variety of mobile source factors including fleet mix, traffic congestion patterns, or terrain.

IMPLEMENTING THE NEW NO₂ STANDARD

- In this final rule, EPA is outlining the Clean Air Act requirements that states must address to implement the new NO₂ air quality standard.
- The new standard must be taken into account when permitting new or modified major sources of NO_x emissions such as fossil-fuel fired power plants, boilers, and a variety of other manufacturing operations.
- EPA expects to identify or “designate” areas as attaining or not attaining the new standard by January 2012, within two years of establishing the new NO₂ standard. These designations

will be based on the existing community-wide monitoring network. Areas with monitors recording violations of the new standards will be designated “nonattainment.” EPA anticipates designating all other areas of the country “unclassifiable” to reflect the fact that there is insufficient data available to determine if those areas are meeting the revised NAAQS.

- Once the expanded network of NO₂ monitors is fully deployed and three years of air quality data have been collected, EPA intends to redesignate areas in 2016 or 2017, as appropriate, based on the air quality data from the new monitoring network.

BACKGROUND

- The Clean Air Act requires EPA to set national ambient air quality standards for pollutants considered harmful to public health and the environment. National standards exist for six pollutants: nitrogen dioxide, ozone, particulate matter, carbon monoxide, sulfur dioxide, and lead.
- For each of these pollutants, the Clean Air Act requires EPA to set the health-based or “primary” standards at a level judged to be “requisite to protect the public health with an adequate margin of safety” and establish secondary standards that are “requisite” to protect public welfare from “any known or anticipated adverse effects associated with the pollutant in the ambient air” including effects on vegetation, soils, water, wildlife, buildings and national monuments, and visibility. EPA is considering the need for changes to the secondary NO₂ standard under a separate review.
- The law also requires EPA to review the standards and their scientific basis every five years to determine whether revisions are appropriate.
- Nitrogen dioxide is one of a group of highly reactive gases known as “oxides of nitrogen.” NO₂ forms quickly from emissions from cars, trucks and buses, power plants, and off-road equipment. In addition to contributing to the formation of ground-level ozone and fine particle pollution, NO₂ is linked with a number of adverse effects on the respiratory system.
- EPA first established standards for NO₂ in 1971, setting both a primary standard (to protect health) and a secondary standard (to protect the public welfare) at 53 ppb, averaged annually. Prior to the current review, the Agency reviewed the standards twice since 1971, but chose not to revise the standards at the conclusion of each review.
- All areas presently meet the 1971 NO₂ NAAQS, with annual NO₂ concentrations measured at community-wide monitors well below the level of the standard (53 ppb). Annual average ambient NO₂ concentrations, as measured at community-wide monitors, have decreased by more than 40 percent since 1980. Currently, the annual average NO₂ concentrations range from approximately 10-20 ppb.
- EPA expects NO₂ concentrations to continue decreasing as a number of mobile source regulations take effect. Tier 2 standards for light-duty vehicles began phasing in during 2004, and new NO_x standards for heavy-duty engines are phasing in between 2007 and 2010

model years. Current air quality monitoring data reflect only a few years of vehicles entering the fleet that meet these stricter NO_x tailpipe standards.

FOR MORE INFORMATION

- To download a copy of the final rule, go to EPA's Web site at:
<http://www.epa.gov/air/nitrogenoxides>.
- This final rule and other background information are also available either electronically at <http://www.regulations.gov>, EPA's electronic public docket and comment system, or in hardcopy at the EPA Docket Center's Public Reading Room.
- The Public Reading Room is located in the EPA Headquarters, Room Number 3334 in the EPA West Building, located at 1301 Constitution Avenue, NW, Washington, DC. Hours of operation are 8:30 a.m. to 4:30 p.m. eastern standard time, Monday through Friday, excluding Federal holidays.
- Visitors are required to show photographic identification, pass through a metal detector, and sign the EPA visitor log. All visitor materials will be processed through an X-ray machine as well. Visitors will be provided a badge that must be visible at all times.
- Materials for this action can be accessed using Docket ID No. EPA-HQ-OAR-2006-0922.

EPA Strengthens Air Quality Standard for Nitrogen Dioxide/First new NO₂ standard in 35 years will improve air quality for millions

Release date: 01/25/2010

Contact Information: Cathy Milbourn milbourn.cathy@epa.gov 202-564-7849 202-564-4355; En espanol: Lina Younes younes.lina@epa.gov 202-564-9924; 202-564-4355

WASHINGTON – The U.S. Environmental Protection Agency today announced a new national air quality standard for nitrogen dioxide (NO₂). This new one-hour standard will protect millions of Americans from peak short-term exposures, which primarily occur near major roads. Short-term exposures to NO₂ have been linked to impaired lung function and increased respiratory infections, especially in people with asthma.

“This new one-hour standard is designed to protect the air we breathe and reduce health threats for millions of Americans. For the first time ever, we are working to prevent short-term exposures in high risk NO₂ zones like urban communities and areas near roadways,” said EPA Administrator Lisa P. Jackson. “Improving air quality is a top priority for this EPA. We’re moving into the clean, sustainable economy of the 21st century, defined by expanded innovation, stronger pollution standards and healthier communities.”

The agency set the new one-hour standard for NO₂ at a level of 100 parts per billion (ppb). EPA also is retaining the existing annual average standard of 53 ppb. NO₂ is formed from vehicle, power plant and other industrial emissions, and contributes to the formation of fine particle pollution and smog. Earlier this month, EPA proposed to tighten the nation’s smog standards to protect the health of all Americans, especially children.

EPA is establishing new monitoring requirements in urban areas that will measure NO₂ levels around major roads and across the community. Monitors must be located near roadways in cities with at least 500,000 residents. Larger cities and areas with major roadways will have additional monitors. Community-wide monitoring will continue in cities with at least 1 million residents.

Working with the states, EPA will site at least 40 monitors in locations to help protect communities that are susceptible and vulnerable to elevated levels of NO₂.

The new standard will help protect Americans from NO₂ exposures linked to respiratory illnesses that lead to emergency room visits and hospital admissions, particularly in at-risk populations such as children, the elderly, and asthmatics.

EPA expects to identify or designate areas not meeting the new standard, based on the existing community-wide monitoring network, by January 2012. New monitors must

begin operating no later than January 1, 2013. When three years of air quality data are available from the new monitoring network, EPA intends to redesignate areas as appropriate.

More information: <http://www.epa.gov/air/nitrogenoxides>

FACT SHEET

FINAL AIR TOXICS STANDARDS FOR RECIPROCATING INTERNAL COMBUSTION ENGINES

ACTION

- On February 17, 2010, the Environmental Protection Agency (EPA) issued a final rule that will reduce emissions of toxic air pollutants from existing diesel powered stationary reciprocating internal combustion engines (RICE). These engines also are known as compression ignition (CI) engines.
- Industrial facilities such as power plants and chemical and manufacturing plants use these engines to generate electricity for compressors and pumps. They also are used in emergencies to produce electricity to pump water for flood and fire control.
- Toxic air pollutants, also known as hazardous air pollutants or air toxics, are those pollutants known or suspected of causing cancer and other serious health effects.
- This final rule applies to stationary diesel engines that meet specific siting, age and size criteria. It will control emissions of formaldehyde, acetaldehyde, acrolein, methanol and other air toxics from diesel engines:
 - ◆ used at area sources of air toxics emissions and constructed or reconstructed before June 12, 2006,
 - ◆ used at major sources of air toxics emissions, have a site rating of less than or equal to 500 horsepower (HP), and constructed or reconstructed before June 12, 2006,
 - ◆ used at major sources of air toxics for non-emergency purposes, have a site rating of greater than 500 HP, and constructed or reconstructed before December 19, 2002.
- On December 18, 2008, the DC. Circuit Court of Appeals determined that EPA's air toxics standards must address emissions during all phases of operation including periods of startup, shutdown, and malfunction. Therefore, the final rule requires diesel RICE to comply with these emissions standards during malfunction and shutdown, and specifies work practice standards that apply during startup. This action also revises the startup, shutdown, and malfunction provisions for the stationary engines regulated by similar emissions standards in 2004 and 2008.
- Operators of existing stationary diesel engines will be required to:
 - ◆ Install emissions control equipment that would limit air toxics emissions by up to 70 percent for stationary non-emergency engines with a site rating greater than 300 HP,
 - ◆ Perform emissions tests to demonstrate engine performance and compliance with rule requirements, and
 - ◆ Burn ultra-low sulfur fuel in stationary non-emergency engines with a site rating greater than 300 horsepower.

BENEFITS AND COSTS

- EPA estimates that more than 900,000 of these engines generate electricity and power equipment at industrial, agricultural and other facilities.
- When this rule is fully implemented in 2013, EPA estimates that emissions from these diesel engines will drop by approximately:
 - ◆ 1,000 tons per year (tpy) of air toxics,
 - ◆ 2,800 tpy of fine particulate matter,
 - ◆ 14,000 tpy of carbon monoxide, and
 - ◆ 27,000 tpy of volatile organic compounds
- These emissions reductions will lead to significant annual health benefits. In 2013, this rule will protect public health by avoiding:
 - ◆ 110 to 270 premature deaths,
 - ◆ 75 cases of chronic bronchitis,
 - ◆ 170 nonfatal heart attacks,
 - ◆ 160 hospital and emergency room visits,
 - ◆ 180 cases of acute bronchitis,
 - ◆ 15,000 days when people miss work,
 - ◆ 1,900 cases of aggravated asthma, and
 - ◆ 87,000 acute respiratory symptoms.
- The value of these benefits is significant ranging from \$940 million to \$2.3 billion in 2013 – outweighing the costs by at least \$570 million.
- EPA estimates the total national capital cost for the final rule to be approximately \$744 million in 2013, with a total national annual cost of \$373 million in 2013. The annual cost includes control device operation and maintenance as well as monitoring, recordkeeping, reporting, and performance testing.
- EPA calculated the costs and benefits of this rule based on the value of a dollar in 2008.

BACKGROUND

- On June 15, 2004, EPA promulgated national emission standards for hazardous air pollutants (NESHAP) for stationary RICE that have site ratings of greater than 500 horsepower and are located at major sources of air toxics emissions.
- On January 18, 2008, EPA promulgated NESHAP for new stationary RICE that either are located at area sources of air toxics emissions or that have a site rating of less than or equal to 500 horsepower, are located at major sources of air toxics emissions, and were constructed or reconstructed after June 12, 2006.
- The schedule for completing this rule is part of a consent decree with Environmental Defense and Sierra Club, which requires the EPA Administrator to complete a final rule

by February 17, 2010.

- In March 2009, EPA proposed emissions standards to reduce air toxics from a broader group of engines. Today's rule completes action on some of those engines. It does not cover stationary spark ignition RICE. EPA determined that additional emissions data should be collected prior to completing standards for these spark ignition engines.
- EPA will issue final emissions standards for existing spark ignition engines by August 10, 2010. That rule will cover spark ignition engines:
 - ◆ used at area sources of air toxics emissions and constructed or reconstructed before June 12, 2006,
 - ◆ used at major sources of air toxics emissions, have a site rating of less than or equal to 500 horsepower and constructed or reconstructed before June 12, 2006

FOR MORE INFORMATION

- The final rule is posted at: <http://www.epa.gov/ttn/oarpg/new.html>.
- Today's final rule and other background information are also available either electronically at <http://www.regulations.gov>, EPA's electronic public docket and comment system, or in hardcopy at the EPA Docket Center's Public Reading Room.
 - The Public Reading Room is located in the EPA Headquarters Library, Room Number 3334 in the EPA West Building, located at 1301 Constitution Ave., NW, Washington, DC. Hours of operation are 8:30 a.m. to 4:30 p.m. eastern standard time, Monday through Friday, excluding Federal holidays.
 - Visitors are required to show photographic identification, pass through a metal detector, and sign the EPA visitor log. All visitor materials will be processed through an X-ray machine as well. Visitors will be provided a badge that must be visible at all times.
 - Materials for this proposed action can be accessed using Docket ID No. EPA-HQ-OAR-2008-0708.
- For further information about the final action, contact Ms. Melanie King of EPA's Office of Air Quality Planning and Standards, Sector Policies and Programs Division, Energy Strategies Group at (919) 541-2469 or by e-mail at king.melanie@epa.gov.

Final Rule Reduces Air Toxics from Existing Stationary Diesel Engines/Emissions reductions will save lives and protect health

Release date: 02/18/2010

Contact Information: Cathy Milbourn milbourn.cathy@epa.gov 202-564-7849 202-564-4355

WASHINGTON – The U.S. Environmental Protection Agency (EPA) is setting the first standards that will reduce emissions of formaldehyde, benzene, acrolein and other toxic air pollutants from certain stationary diesel engines. These pollutants are known or suspected to cause cancer or other serious health problems and environmental damage.

“Improving air quality is one the agency’s top priorities,” said Gina McCarthy, assistant administrator for EPA’s Office of Air and Radiation. “Controlling emissions from these engines will save lives and protect our communities from serious health problems, including heart attacks, asthma and other respiratory illnesses.”

The emission limits apply to existing diesel engines meeting certain criteria for age, size, and use. EPA estimates that more than 900,000 of the engines generate electricity and power equipment at industrial, agricultural and other facilities. The engines also are used in emergencies to produce electricity and pump water for flood and fire control. Emergency engines used at most residences, hospitals and other institutional facilities, and commercial facilities such as shopping centers are not covered by this rule.

To meet the emissions requirements, owners and operators of the largest of the engines will need to install emissions controls, such as catalysts, to engine exhaust systems. Emergency engines covered by this rule need to comply with operating requirements that will limit emissions.

EPA estimates that the rule will reduce annual air toxics emissions by 1,000 tons, particle pollution by 2,800 tons, carbon monoxide emissions by 14,000 tons, and organic compound emissions by 27,000 tons when fully implemented in 2013.

EPA will issue final emissions standards for similar existing stationary engines that burn gasoline, natural gas and landfill gas, known as spark ignition engines, by August 10, 2010.

More information: <http://www.epa.gov/ttn/oarpg/new.html>

EPA Finalizes Regulations for the National Renewable Fuel Standard Program for 2010 and Beyond

The U.S. Environmental Protection Agency is finalizing revisions to the National Renewable Fuel Standard program (commonly known as the RFS program). This rule makes changes to the Renewable Fuel Standard program as required by the Energy Independence and Security Act of 2007 (EISA). The revised statutory requirements establish new specific annual volume standards for cellulosic biofuel, biomass-based diesel, advanced biofuel, and total renewable fuel that must be used in transportation fuel. The revised statutory requirements also include new definitions and criteria for both renewable fuels and the feedstocks used to produce them, including new greenhouse gas (GHG) emission thresholds as determined by lifecycle analysis. The regulatory requirements for RFS will apply to domestic and foreign producers and importers of renewable fuel used in the U.S.

Key Actions

This final action lays the foundation for achieving significant reductions of greenhouse gas emissions from the use of renewable fuels, reductions of imported petroleum and further development and expansion of our nation's renewable fuels sector.

This action is also setting the 2010 RFS volume standard at 12.95 billion gallons (bg). Further, for the first time, EPA is setting volume standards for specific categories of renewable fuels including cellulosic, biomass-based diesel, and total advanced renewable fuels. For 2010, the cellulosic standard is being set at 6.5 million gallons (mg); the biomass-based diesel standard is being set at 1.15 bg, (combining the 2009 and 2010 standards as proposed).



In order to qualify for these new volume categories, fuels must demonstrate that they meet certain minimum greenhouse gas reduction standards, based on a lifecycle assessment, in comparison to the petroleum fuels they displace.

For its final determinations, EPA is using the best available models and has incorporated updated information based on:

- significant new scientific data available to the agency
- rigorous independent peer review
- extensive public comments

For the fuel pathways modeled, the following meet or exceed the respective required minimum GHG reduction standards:

- corn based ethanol plants using new efficient technologies
- soy based biodiesel
- biodiesel made from waste grease, oils, and fats
- sugarcane based ethanol

Fuels derived from cellulosic materials meet, and generally significantly exceed, the minimum GHG reduction standard.

Additional information on these and other key changes can be found below.

New Renewable Volume Standards

This final rule revises the annual renewable fuel standards (RFS2) and makes the necessary program modifications as set forth in EISA. Of these modifications, several are notable. First, the required renewable fuel volume continues to increase under RFS2, reaching 36 bg by 2022. The following chart shows the volume requirements from EISA:

EISA Renewable Fuel Volume Requirements (billion gallons)

Year				Total renewable fuel requirement
	Cellulosic biofuel requirement	Biomass-based diesel requirement	Total Advanced biofuel requirement	
2008	n/a	n/a	n/a	9.0
2009	n/a	0.5	0.6	11.1
2010	0.1	0.65	0.95	12.95
2011	0.25	0.80	1.35	13.95
2012	0.5	1.0	2.0	15.2
2013	1.0	a	2.75	16.55
2014	1.75	a	3.75	18.15
2015	3.0	a	5.5	20.5
2016	4.25	a	7.25	22.25
2017	5.5	a	9.0	24.0
2018	7.0	a	11.0	26.0
2019	8.5	a	13.0	28.0
2020	10.5	a	15.0	30.0
2021	13.5	a	18.0	33.0
2022	16.0	a	21.0	36.0
2023+	b	b	b	b

^a To be determined by EPA through a future rulemaking, but no less than 1.0 billion gallons.

^b To be determined by EPA through a future rulemaking.

EISA Expands Coverage to Include Diesel and Nonroad Fuels

EISA expanded the RFS program beyond gasoline to generally cover all transportation fuel. This now includes gasoline and diesel fuel intended for use in highway vehicles and engines, and nonroad, locomotive and marine engines. These provisions continue to apply to refiners, blenders, and importers of transportation fuel (with limited flexibilities for small refiners), and their percentage standards apply to the total amount of gasoline and diesel they produce for such use.

2010 Standards

For 2010, EISA set a total renewable fuel standard of 12.95 billion gallons. This total volume, presented as a fraction of a refiner's or importer's gasoline and diesel volume, must be renewable fuel. The final 2010 standards are shown in below.

Standards for 2010

Fuel Category	Percentage of Fuel Required to be Renewable	Volume of Renewable Fuel (in billion gal)
Cellulosic biofuel	0.004%	0.0065
Biomass-based diesel	*1.10%	*1.15
Total Advanced biofuel	0.61%	0.95
Renewable fuel	8.25%	12.95

**Combined 2009/2010 Biomass-Based Diesel Volumes Applied in 2010*

Setting the 2010 Cellulosic Standard

EISA requires the Administrator to evaluate and make an appropriate market determination for setting the cellulosic standard each year. Based on an updated market analysis considering detailed information from pilot and demonstration scale plants, an Energy Information Administration analysis, and other publically and privately available market information, we are setting the 2010 cellulosic biofuel standard at 6.5 million ethanol-equivalent gallons. While this volume is significantly less than that set forth in EISA for 2010, a number of companies and projects appear to be poised to expand production over the next several years. Since the cellulosic standard is lower than the level otherwise required by EISA, we will also make cellulosic credits available to obligated parties for end-of-year compliance, should they need them, at a price of \$1.56 per gallon (gallon-RIN). In addition, while we have lowered the cellulosic standard below the level otherwise required in the Act, we have maintained the advanced biofuel and total renewable standards as that set in EISA for 2010. We are continuing to assess the growth of the cellulosic biofuel industry and intend to issue a notice of proposed rulemaking (NPRM) each spring and a final rule by November 30 of each year to set the renewable fuel standards for each ensuing year.

Treatment of Biomass-based Diesel in 2010

This rule also includes special provisions to account for the 2009 biomass-based diesel volume requirements in EISA. As described in the final rule, in November 2008 we used the new total renewable fuel volume of 11.1 billion gallons from EISA as the basis for the 2009 total renewable fuel standard that we issued under the RFS1 regulations. While this approach ensured that the total mandated renewable fuel volume required by EISA for 2009 was used, the RFS1 regulatory structure did not provide a mechanism for implementing the 0.5 billion gallon 2009 requirement for biomass-based diesel. We are addressing this issue in this rule combining the 2010 biomass-based diesel requirement of 0.65 billion gallons with the 2009 biomass-based diesel requirement of 0.5 billion gallons to require that obligated parties meet a combined 2009/2010 requirement of 1.15 billion gallons by the end of the 2010 compliance year.

Greenhouse Gas Reduction Thresholds

EISA established new renewable fuel categories and eligibility requirements, including setting the first mandatory GHG reduction thresholds for the various categories of fuels. A significant aspect of the RFS2 program is the requirement that the lifecycle GHG emissions of a qualifying

renewable fuel must be less than the lifecycle GHG emissions of the 2005 baseline average gasoline or diesel fuel that it replaces. Four different levels of reductions are required for the four different renewable fuel standards. These lifecycle performance improvement thresholds are listed in the table below:

Lifecycle GHG Thresholds Specified in EISA

(Percent reduction from 2005 baseline)

Renewable fuel^a	20%
Advanced biofuel	50%
Biomass-based diesel	50%
Cellulosic biofuel	60%

^a The 20% criterion generally applies to renewable fuel from new facilities that commenced construction after December 19, 2007.

Compliance with each threshold requires a comprehensive evaluation of renewable fuels, as well as the baseline for gasoline and diesel, on the basis of their lifecycle emissions. As mandated by EISA, the greenhouse gas emissions assessments must evaluate the aggregate quantity of greenhouse gas emissions (including direct emissions and significant indirect emissions such as significant emissions from land use changes) related to the full lifecycle, including all stages of fuel and feedstock production, distribution and use by the ultimate consumer.

EPA's lifecycle methodology required breaking new scientific ground and using analytical tools in new ways. Throughout the development of EPA's lifecycle analysis, the Agency employed a collaborative, transparent, and science-based approach. EPA recognizes that as the state of scientific knowledge continues to evolve in this area, the lifecycle GHG assessments for a variety of fuel pathways are likely to be updated. Therefore, while EPA is using its current lifecycle assessments to inform the regulatory determinations for fuel pathways in this final rule, as required by the statute, the Agency is also committing to further reassess these determinations and lifecycle estimates.

Based on the Agency's current modeling of specific fuel pathways, which incorporated comments received through the third-party peer review process, and data and information from new studies and public comments, EPA has determined that:

- Ethanol produced from corn starch at a new (or expanded capacity from an existing) natural gas-fired facility using advanced efficient technologies that we expect will be most typical of new production facilities complies with the 20% GHG emission reduction threshold
- Biobutanol from corn starch complies with the 20% GHG threshold
- Ethanol produced from sugarcane complies with the applicable 50% GHG reduction threshold for the advanced fuel category
- Biodiesel from soy oil and renewable diesel from waste oils, fats, and greases complies with the 50% GHG threshold for the biomass-based diesel category
- Diesel produced from algal oils complies with the 50% GHG threshold for the biomass-based diesel category
- Cellulosic ethanol and cellulosic diesel (based on currently modeled pathways) comply with the 60% GHG reduction threshold applicable to cellulosic biofuels

In addition to finalizing a threshold compliance determination for those pathways shown above that we specifically modeled, our technical judgment indicates certain other pathways are likely to be similar enough to modeled pathways that we are also assured these similar pathways qualify. Further, for other fuels we are establishing a process whereby a biofuel producer can petition the Agency to consider whether their product would be eligible for use in complying with an EISA standard. For additional information on the lifecycle GHG emissions methodology and results for renewable fuel pathways, and details on the petition process, please refer to the Lifecycle GHG Analysis Fact Sheet, EPA420-F-10-006 or the RFS2 preamble.

Requirements for Feedstock Producers

EISA changed the definition of renewable fuel to require that it be made from feedstocks that qualify as “renewable biomass.” EISA’s definition of the term “renewable biomass” limits the types of biomass as well as the types of land from which the biomass may be harvested. The definition generally applies restrictions to two feedstock sectors: the agricultural sector (planted crops and crop residues) and the non-agricultural sector (planted trees and tree residues, animal waste material and byproducts, slash and pre-commercial thinnings). These definitions affect feedstock use for production of compliant renewable fuels.

In the RFS2 rule, EPA is finalizing details applicable to renewable fuel producers which are necessary to implement this requirement. For both domestic and foreign non-agricultural sector feedstocks, renewable fuel producers can comply with specific recordkeeping and reporting requirements for their individual facilities by collecting and maintaining appropriate records from their feedstock suppliers that their feedstocks comply with the renewable biomass requirement. Producers may also, as an alternative to these individual recordkeeping and reporting requirements, opt to form a consortium to fund an independent third party to conduct annual renewable biomass quality-assurance surveys, based on a plan approved by EPA.

For agriculturally-based feedstocks produced in the U.S., renewable fuel producers will be in compliance based on EPA’s aggregate compliance determination. EPA will monitor agricultural land data yearly and should the baseline level of approved agricultural land be exceeded, the individual recordkeeping and reporting requirements imposed on the non-agricultural sector would then be required. The program also provides an option for a similar, future aggregate determination for renewable fuel produced from foreign-based agricultural feedstocks, if the source region can provide sufficient data to support an effective aggregate analysis and monitoring program. Otherwise, foreign producers must verify using one of the approaches applied in the non-agricultural sector.

Overview of Impacts of Increasing Volume Requirements in the RFS2 Program

The increased use of renewable fuels required by the RFS2 standards is expected to reduce dependence on foreign sources of crude oil, increase domestic sources of energy, while at the same time providing important reductions in greenhouse gas emissions that contribute to climate change.

Petroleum Consumption, Energy Security and Fuel Costs

We estimate that the increased use of renewable fuels needed to reach the 36 billion gallons mandated by 2022 relative to market projections in the absence of the mandate will displace about 13.6 billion gallons of petroleum-based gasoline and diesel fuel. This represents about 7 percent of expected annual gasoline and diesel consumption in 2022. Furthermore, we expect the rule to decrease oil imports by \$41.5 billion, and to result in additional energy security benefits of \$2.6 billion. By 2022, the increased use of renewable fuels is expected to decrease gasoline costs by 2.4 cents per gallon and to decrease diesel costs by 12.1 cents per gallon.

Greenhouse Gas Emissions

The expanded use of renewable fuels is expected to reduce greenhouse gas emissions by 138 million metric tons when the program is fully implemented in 2022. The reductions would be equivalent to taking about 27 million vehicles off the road.

Emissions and Air Quality

The increased use of renewable fuels will also impact emissions with some emissions such as hydrocarbons, nitrogen oxides (NO_x), acetaldehyde and ethanol expected to increase and others such as carbon monoxide (CO) and benzene expected to decrease. However, the impacts of these emissions on criteria air pollutants are highly variable from region to region. Overall the emission changes are projected to lead to increases in population-weighted annual average ambient PM and ozone concentrations, which in turn are anticipated to lead to up to 245 cases of adult premature mortality.

Agriculture Sector and Related Impacts

In 2022, the increased use of renewable fuels is expected to expand the market for agricultural products such as corn and soybeans and open new markets for advanced biofuels. We estimate that the RFS2 program would increase net farm income by \$13 billion dollars in 2022. We also expect corn exports to decrease by 8 percent, and soybean exports to decrease by 14 percent.

The rule is expected to increase the cost of food \$10 per person in 2022.

For More Information

For more information on the final RFS2 rule please visit the RFS website at:
www.epa.gov/otaq/renewablefuels/index.htm

Contact EPA's Office of Transportation and Air Quality, Assessment and Standards Division information line at: asdinfo@epa.gov, or (734) 214-4636

Obama Announces Steps to Boost Biofuels, Clean Coal

Release date: 02/03/2010

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WASHINGTON – President Barack Obama today announced a series of steps his Administration is taking as part of its comprehensive strategy to enhance American energy independence while building a foundation for a new clean energy economy, and its promise of new industries and millions of jobs.

At a meeting with a bipartisan group of governors from around the country, the President laid out three measures that will work in concert to boost biofuels production and reduce our dangerous dependence on foreign oil.

The Environmental Protection Agency (EPA) has finalized a rule to implement the long-term renewable fuels standard of 36 billion gallons by 2022 established by Congress. The U.S. Department of Agriculture has proposed a rule on the Biomass Crop Assistance Program (BCAP) that would provide financing to increase the conversion of biomass to bioenergy. The President's Biofuels Interagency Working Group released its first report – *Growing America's Fuel*. The report, authored by group co-chairs, Secretaries Vilsack and Chu, and Administrator Jackson, lays out a strategy to advance the development and commercialization of a sustainable biofuels industry to meet or exceed the nation's biofuels targets.

In addition, President Obama announced a Presidential Memorandum (linked below) creating an Interagency Task Force on Carbon Capture and Storage to develop a comprehensive and coordinated federal strategy to speed the development and deployment of clean coal technologies. Our nation's economy will continue to rely on the availability and affordability of domestic coal for decades to meet its energy needs, and these advances are necessary to reduce pollution in the meantime. The President calls for five to ten commercial demonstration projects to be up and running by 2016.

President Obama said, "Now, I happen to believe that we should pass a comprehensive energy and climate bill. It will make clean energy the profitable kind of energy, and the decision by other nations to do this is already giving their businesses a leg up on developing clean energy jobs and technologies. But even if you disagree on the threat posed by climate change, investing in clean energy jobs and businesses is still the right thing to do for our economy. Reducing our dependence on foreign oil is still the right thing to do for our security. We can't afford to spin our wheels while the rest of the world speeds ahead."

"Advancing biomass and biofuel production holds the potential to create green jobs, which is one of the many ways the Obama Administration is working to rebuild and revitalize rural America," said Agriculture Secretary Tom Vilsack. "Facilities that produce renewable fuel from biomass have to be designed, built and operated. Additionally, BCAP will stimulate biomass production and that will benefit producers and provide the

materials necessary to generate clean energy and reduce carbon pollution.”

“President Obama and this Administration are strongly committed to the development of carbon capture and storage technology as a key part of the clean energy economy. We can and should lead the world in this technology and the jobs it can create,” said Energy Secretary Steven Chu.

“The actions President Obama has taken today will create jobs, slash greenhouse gas emissions and increase our energy security while helping to put America at the leading edge of the new energy economy,” said EPA Administrator Lisa P. Jackson. “The renewable fuel standards will help bring new economic opportunity to millions of Americans, particularly in rural America. EPA is proud to be a part of the President’s effort to combat climate change and put Americans back to work – both through the new renewable fuel standards and through our co-chairmanship with the Department of Energy of the Interagency Task Force on Carbon Capture and Storage.”

Background on today’s announcements:

Renewable Fuels Standard. EPA has finalized a rule implementing the long-term renewable fuels mandate of 36 billion gallons by 2022 established by Congress. The Renewable Fuels Standard requires biofuels production to grow from last year’s 11.1 billion gallons to 36 billion gallons in 2022, with 21 billion gallons to come from advanced biofuels. Increasing renewable fuels will reduce dependence on oil by more than 328 million barrels a year and reduce greenhouse gas emissions more than 138 million metric tons a year when fully phased in by 2022. For the first time, some renewable fuels must achieve greenhouse gas emission reductions - compared to the gasoline and diesel fuels they displace – in order to be counted towards compliance with volume standards. To read the rule:

<http://www.epa.gov/otaq/renewablefuels/index.htm>

Biomass Crop Assistance Program. USDA has proposed a rule for Biomass Crop Assistance Program (BCAP) to convert biomass to bioenergy and bio-based products. USDA provides grants and loans and other financial support to help biofuels and renewable energy commercialization. BCAP has already begun to provide matching payments to folks delivering biomass for the collection, harvest, storage, and transportation of biomass to eligible biomass conversion facilities. To read the rule:

<http://www.fsa.usda.gov/FSA/webapp?area=home&subject=ener&topic=bcap>

Biofuels Working Group. In May, President Obama established the Biofuels Interagency Working Group – co-chaired by USDA, DOE, and EPA, and with input from many others – to develop a comprehensive approach to accelerating the investment in and production of American biofuels and reducing our dependence on fossil fuels. Today the Working Group released its first report: *Growing America’s Fuel* – a new U.S. Government strategy for meeting or beating the country’s biofuel targets. The report is focused on short term solid government solutions supporting the existing biofuels industry, as well as accelerating the commercial establishment of advanced biofuels

and a viable long-term market by transforming how the U.S. Government does business across Departments and using strategic public-private partnerships. To read the full report:

http://www.whitehouse.gov/sites/default/files/rss_viewer/growing_americas_fuels.PDF

Presidential Memorandum for a Comprehensive Federal Strategy on Carbon Capture and Storage. Charting the path toward clean coal is essential to achieving the Administration's clean energy goals, supporting American jobs and reducing emissions of carbon pollution. Rapid development and deployment of clean coal technologies, particularly carbon capture and storage (CCS), will help position the U.S. as a leader in the global clean energy race. The President's memorandum establishes an Interagency Task Force on Carbon Capture and Storage to develop a comprehensive and coordinated federal strategy to speed the development and deployment of clean coal technologies.

The Task Force will be co-chaired by representatives of from DOE and EPA and include participants from at least 9 different agencies and offices. The Task Force shall develop within 180 days a plan to overcome the barriers to the deployment of widespread affordable CCS within 10 years, with a goal of bringing five to ten commercial demonstration projects on line by 2016. The plan should address incentives for CCS adoption and any financial, economic, technological, legal, institutional, or other barriers to deployment. The Task Force should consider how best to coordinate existing federal authorities and programs, as well as identify areas where additional federal authority may be necessary. The Task Force shall report progress periodically to the President, through the Chair of the Council on Environmental Quality. To read the full memorandum: <http://www.whitehouse.gov/the-press-office/presidential-memorandum-a-comprehensive-federal-strategy-carbon-capture-and-storage>